

**(19) World Intellectual Property  
Organization  
International Bureau**



**(43) International Publication Date**  
**10 March 2005 (10.03.2005)**

## PCT

**(10) International Publication Number**  
**WO 2005/021519 A3**

**(51) International Patent Classification<sup>7</sup>: A61K 31/427, C07D 277/48, 417/12, C07C 275/26, A61P 11/06**

[GB/CH]; Novartis AG, Lichtstrasse 35, CH-4056 Basel (CH).

**(21) International Application Number:**  
PCT/EP2004/009586

**(74) Agent: GRUBB, Philip;** Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).

**(22) International Filing Date:** 27 August 2004 (27.08.2004)

**(81) Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

**(25) Filing Language:** English

**(26) Publication Language:** English

**(30) Priority Data:**  
0320197.7      28 August 2003 (28.08.2003)      GB

**(71) Applicant (for all designated States except AT, US): NOVARTIS AG [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).**

**(71) Applicant (for AT only): NOVARTIS PHARMA GMBH**  
[AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

**(72) Inventors; and**

**(75) Inventors/Applicants (for US only): BLOOMFIELD, Graham, Charles [GB/GB]; Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB (GB). BRUCE, Ian [GB/GB]; Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB (GB). HAYLER, Judy, Fox [GB/GB]; Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB (GB). LEBLANC, Catherine [FR/GB]; Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB (GB). LE GRAND, Darren, Mark [GB/GB]; Novartis Horsham Research Centre, Wimblehurst Road, Horsham, West Sussex RH12 5AB (GB). MCCARTHY, Clive**

**(84) Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

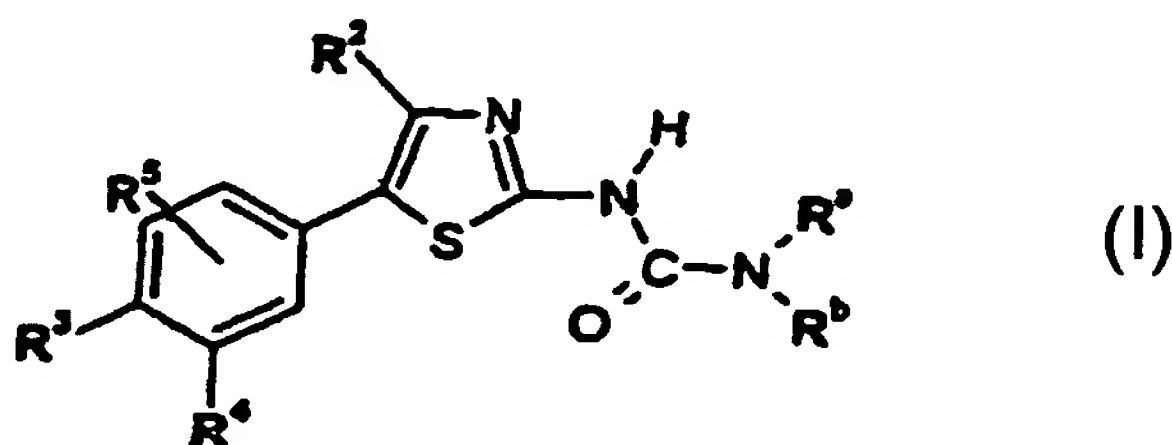
**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**  
12 May 2005

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(54) Title: 5-PHENYL-4-METHYL-THIAZOL-2-YL-AMINE DERIVATIVES AS INHIBITORS OF PHOSPHATIDYLINOSITOL 3 KINASE ENZYMES (PI3) FOR THE TREATMENT OF INFLAMMATORY AIRWAY DISEASES**



**(57) Abstract:** Compounds of Formula (I) in free or salt form, wherein  $R^a$ ,  $R^b$ ,  $R^2$ ,  $R^3$ ,  $R^4$  and  $R^5$  have the meanings as indicated in the specification, are useful for treating conditions that are mediated by mediated by phosphatidylinositol 3-kinase such as inflammatory airway diseases. Pharmaceutical compositions that contain the compounds and a process for preparing the compounds are also described.